

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) Plant for urea production from ammonia and carbon dioxide having a so-called high-pressure section which comprises a generally cylindrical synthesis reactor defining a longitudinal axis thereof and a condensation unit positioned inside said reactor, all substantially operating at the same pressure, ~~characterised in that~~ wherein said condensation unit comprises a plurality of flattened plate-shaped essentially rectangular heat exchangers, arranged with long sides parallel to the longitudinal axis of said reactor.

2. (Currently amended) Plant according to claim 1, wherein each of said exchangers comprises a pair of juxtaposed metallic plates, joined together ~~by perimetric weldings~~ by perimetric welding so as to define a chamber of predetermined width between them.

3. (Previously presented) Plant according to claim 2, wherein said plates are also joined together through a plurality of welding points defining in said chamber a plurality of winding paths in fluid communication with each other and with connectors for the entry and exit, respectively, of a heat exchange fluid into and from the respective heat exchanger, said connectors being provided for on opposite sides of said exchangers.

4. (Previously presented) Plant according to claim 3, wherein said welding points are distributed in groups of five.

5. (Previously presented) Plant according to claim 3, wherein the entry and exit connectors of all of the exchangers are connected to respective ducts for distributing and collecting the heat exchange fluid entering and respectively exiting from said exchangers, respectively.

6. (Previously presented) Plant according to claim 2, wherein each of said exchangers comprises at least one distributor duct and at least one collector duct of an operating heat exchange fluid, associated with two respective opposite sides of said exchanger and extending along them, said ducts being in fluid communication on one side with said chamber through at least one opening formed in them and, on the other side, with the outside of said exchanger, through respective connectors for the entry and exit of said operating fluid, positioned on a same short side of the exchanger.

7. (Previously presented) Plant according to claim 6, wherein said ducts consist of respective tubes, positioned in said chamber and fixed to said opposite long sides of the exchanger.

8. (Previously presented) Plant according to claim 7, wherein said ducts are directly formed in correspondence with said long sides at the time of the forming of the exchanger.

9. (Previously presented) Plant according to claim 2, wherein said chamber is subdivided into a plurality of chambers not directly communicating with each other, each of which is in fluid communication with said distributor duct and with said collector duct, through respective openings formed in them.

10. (Previously presented) Plant according to claim 9, wherein said chambers are obtained through welding lines of said metallic plates, extending perpendicularly to said ducts.

11. (Previously presented) Plant according to claim 10, wherein each of said chambers is internally equipped with a plurality of deflector plates, extending parallel to said ducts and defining a substantially winding path for said operating fluid.

12. (Previously presented) Plant according to claim 1, wherein said condensation unit has a substantially annular cylindrical configuration, crossed axially by a passage with a predetermined diameter, in which said plurality of heat exchangers are distributed in many coaxial and concentric rows, in a substantially radial arrangement.

13. (Previously presented) Plant according to claim 2, wherein at least one of said exchangers is internally equipped with a separator plate, extending from one side of said exchanger, towards a side opposite it and from which said plate is in a predetermined distanced relationship, said plate defining in said chamber a substantially U-shaped fluid path having descending and ascending portions, respectively, in communication with the outside of the exchanger through respective connectors.

14. (Previously presented) Plant according to claim 13, wherein said separator plate extends in said chamber in a direction forming an angle with said side, for which reason the portions of said fluid path inside the exchanger have a gradually increasing cross-section.

15. (Previously presented) Plant according to claim 14, wherein said exchangers have predetermined cross sections of less than the cross sections of a manhole opening arranged in correspondence with a base plate of said reactor.

16. (Cancelled)